

USAWC STRATEGY RESEARCH PROJECT

**THE IMPLICATIONS ON THE GULF STATES OF ANY AMERICAN MILITARY
OPERATION AGAINST IRAN**

by

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The views expressed in this student academic research paper are those of the author and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the U.S. Government.

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ABSTRACT

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On 31 July 2006, the United Nations Security Council passed resolution 1696 giving Iran exactly one month – until 31 August – to stop its uranium enrichment and reprocessing activities. Iran had responded to the imminent deadline with a flurry of statements and proposals that have a single common theme: a determination to continue with its nuclear program. There is a growing conviction of the United States and in the international community that the Bush Administration, while publicly advocating diplomacy in order to stop Iran from pursuing a nuclear weapon, has increased intelligence activities inside Iran and intensified planning for a possible military operation.

This SRP discusses the implications for nations in the Gulf region of a military operation against Iran on the GCC country. It reviews external and internal security issues, along with economic and environmental problems that would occur once a military operation is conducted.

THE IMPLICATIONS ON THE GULF STATES OF ANY AMERICAN MILITARY OPERATIONS AGAINST IRAN

President George W. Bush labeled Iran as one of the three nation in the 'axis of evil' in his January 2002 State of the Union speech. Since that time, relations between Washington and Teheran have become even more hostile. Iran has been preparing for what it sees as an inevitable war with the United States (U.S.). Brig. Gen. Mohammad-Ali Jaafari, commander of the Revolutionary Guards, in his statement to the official IRNA news agency on 9 October, 2005 proclaimed that "as the likely enemy is far more advanced technologically than we are, we have been using what is called 'asymmetric warfare' methods. We have gone through the necessary exercises and our forces are now well prepared for this."¹ There is every reason to believe that a U.S. attack on Iran would be countered with terrorist attacks and the use of weapons of mass destruction and their means of delivery, ballistic missiles.

Since the days of Muhammad Reza Shah, Iran has perceived itself as a regional superpower. Accordingly, it aspires to arm itself with both conventional and non-conventional weapons (long-range ballistic missiles and nuclear weapons), even though publicly Iran denies its intention to acquire nuclear weapons. Consider Iran's strategic goals in its effort to become a regional superpower:

First, Iran seeks to establish a superior regional position among states such as Iraq, Saudi Arabia, as well as the Muslim republics of Central Asia; among regional neighbors such as Turkey, Egypt, and Israel; and finally, to establish an equal status with the other regional nuclear superpowers like Pakistan, India, and Israel (at least with regard to nuclear capability).

Second, Iran seeks to strengthen its position as an Asian-Islamic center of power recognized by the U.S. and Europe, and among the Non-Aligned Movement (NAM). In addition, Iran desires to compete with Turkey and Russia for influence in Afghanistan and Central Asian countries and to influence the agenda of the Muslim world. Lastly, Iran strives to influence Palestinian strategy and policy.²

Third, Iran aspires to dominate the Shiite religious sect in the region and lead the spread of Shiism by supporting groups like Hezbollah in South Lebanon in with funding and training and the Al Hothy Shiite movement in Yemen with political support.

The U.S. and the West in general do not accept the Iranian determination to build its WMD, so they will always try to use all available means to convince Iran to accept other solutions and stop their program. Meanwhile, the Iranian leaders will not give up easily. President Mahmoud Ahmadinejad declared, "While Iran favors negotiation and other peaceful

means to settle its nuclear case, it would by no means cave in to pressure and give up its indisputable rights.”³

On 23 December 2006, the United Nations (UN) Security Council voted unanimously to impose sanctions on Iran for refusing to suspend uranium enrichment, thereby increasing international pressure on the government to prove that it is not trying to make nuclear weapons. Iran immediately rejected the resolution.⁴ However, the U.S. is considering measures to impose the UN sanctions. US Under Secretary of States Nicholas Burns has stated that "we don't think this resolution is enough in itself. We want to let the Iranians know that there is a big cost to them, so they will return to talks.”⁵ So the Gulf region will face another crisis in the coming days and the Gulf countries should prepare them selves for hard times. In the meantime, all countries in the Gulf Cooperation Council (GCC) will be considering their responses, internal and external, to another major U.S. military operation in the region.

Iran General Strategy in Response to a US attack

Political

Should the U.S. attack, Iran would try to tip the balance and establish a political coalition with Russia, China, North Korea and with its old friends and allies with Syria, Venezuela, Cuba, and other Islamic countries that are inimical to the US. This diplomatic action would be an calculated to coun ter American political influence on the situation. Iran will build its coalition by promising the continued flow of oil to these nations. The promise of oil may attract countries like China, which is very dependent on Iranian oil. For example, China made a deal with Iran for gas in November 2004 worth US 100\$ billion, which will likely increase to a total of US 200\$ billion after a similar oil agreement is finalized.⁶ Russia and China have developed strong ties recently with Iran. They possess nuclear weapons and UN Security Council membership with a veto power. Iran will also try to ignite a potential dispute between Russia and China against the US. It will do this by manipulating China’s need for oil. If these efforts succeed, Iran will come effectively under Russian and Chinese protection, because any American attack on Iran will impact directly on both countries’ national interests. So Iran would enjoy the protection of Russian-Chinese alliance. Iran then may seek support of these two Security Council members to weaken the American position by showing to the world how America is trying to control the key world resource and to oppress other nations through US imperialism. Within the Middle East, Iran would influence Arab nations through its terrorist network by pressuring these countries by means of terroristic threats. An attack on Iranian nuclear facilities also has the potential of igniting a diplomatic crisis between the United States and Russia. The Russian

Federation is not only Iran's foremost supplier of nuclear technology and training, it is also reported that hundreds of Russian scientists and technicians currently work in Bushehr. A preemptive attack on Bushehr may kill a large number of Russian personnel; the ensuing diplomatic crisis could seriously affect not only Russian-U.S. trade, but also Russian cooperation on international matters, including the war on terrorism.

Iran's nuclear facilities are viewed by most Iranians as a symbol of national pride and technological progress. An attack on them would provide the Iranian mullahs the necessary justification to intensify their crackdown on dissidents and moderates, whom the hawks are likely to brand as agents of foreign powers.

Military

Army

Iran lacks modern conventional forces; it is modernizing at a slow rate compared to most Gulf and Middle Eastern countries. But its conventional war fighting capabilities cannot be dismissed. From 1995 to 1998, Iran purchased \$1.7 billion of new arms. It then purchased one trillion of new arms from 1999 to 2002, mostly, from Russia, China, and Europe. In the past decade, Iran has purchased over two trillion dollars of armaments-mostly from Europe, Russia, and China. Iran has some 513,000 men in its armed forces, with 325,000 in its army, 125,000 in its Revolutionary Guards Corps, 40,000 paramilitary forces, and 300,000 in its Basij, or Popular Mobilization Army. These forces include some 1,600 tanks, 1,500 other armored vehicles, 3,400 artillery weapons, and 283 combat aircraft – roughly 180-200 of which are operational. It has no modern tanks, combat aircraft, or surface-to-air missiles But it can certainly conduct a far better organized and more popular resistance to any US or other outside military attack than Iraq did in 2003. And its conventional forces will improve with time.

Navy

Iran lacks any modern surface ships, but geography gives Iran a strategic advantage to assume control of the tanker routes in the lower Gulf and the Strait of Hormuz. The Strait is the world's most important oil chokepoint. Some 13.6 million barrels of oil per day transit the Strait of Hormuz, headed east to the Asia (especially Japan, China, and India) and to the west.⁷ At its narrowest, the Strait consists of two-mile wide channels for inbound and outbound tankers within the Omani side of the Strait, and a two-mile wide buffer zone.⁸ The exits on both ends of the Strait are close to Iranian waters and air space. Iran can use land-based missile to close the strait and halt commerce and other maritime activities in the Strait. Moreover, Iran will use smart

sea mines to disrupt maritime activities, just as what it did during the 1980 Iran-Iraq War. Iran has steadily increased its numbers of smart mines. It has also acquired from Russia three relatively modern Kilo-class conventional submarines with long-range torpedoes and mine-laying capability. from Russia. It has bought anti-ship missile equipped patrol boats from China, has land-based missiles, and can deliver such missiles from aircraft, including maritime patrol aircraft and long range fighters. Over time, it can steadily improve its capability to threaten Gulf oil traffic. While the US can certainly defeat Iran in any open attack in maritime environment, Iran's naval capability can disrupt maritime traffic.

Kenneth R. Timmerman claims that: "The Iranians also plan to lay huge minefields across the Persian Gulf inside the Strait of Hormuz, effectively trapping ships that manage to cross the Strait before they can enter the Gulf, where they can be destroyed by coastal artillery and land-based "Silkworm" missile batteries."⁹ Today, Iran has sophisticated EM-53 bottom-tethered mines, which it purchased from China in the 1990s. The EM-53 presents a serious threat to major U.S. surface vessels, since its rocket-propelled charge is capable of hitting the hull of its target at speeds in excess of 70 miles per hour. Some analysts believe the EM-53 can knock out a U.S. aircraft carrier.¹⁰ Clearly, Iran has the capability to neutralize U.S. maritime superiority and simply to wreak considerable damage to the U.S. fleet.

Air Force

While Iran has some air capability, it will not be used heavily in an event of any military confrontation with the U.S. because Iran knows that it cannot match the U.S. air superiority.

Ballistic Missiles

Iran has ballistic missiles capable of striking U.S. military bases in the Arabian Gulf and Iraq, where nearly 200,000 U.S. soldiers are stationed. Its missiles can also reach targets in Israel, Jordan, Saudi Arabia and Turkey. They may be able to reach parts of Germany and Italy. Missile-related cooperation with the former Soviet Union, North Korea, and China over the years has helped Iran move toward its goal of becoming self-sufficient in the production of ballistic missiles. Such assistance included equipment, technology, and expertise. Most of these missiles are Shehab-1 and -2, with a 300- to 500-kilometer (km) range and a 700- to 985-kilogram (kg) payload. With these missiles, Iran is capable of reaching U.S. bases in Oman, Qatar, Kuwait, UAE, and Iraq. Iran is also believed to possess 25 to 100 Shehab-3 ballistic missiles, displayed in a military parade marking the anniversary of the Iran-Iraq war on 22 September 2003. The Shehab-3 has a 1,300km range and a 700kg payload; it is capable of

reaching Israeli cities and bases. In addition, Iran has publicly acknowledged the development of follow-on versions of the Shahab-3.¹¹

Another version, the Shahab-4, is reportedly a more capable ballistic missile than its predecessor. It has been characterized as solely a space launch vehicle, with no military applications. Open source information suggests that currently Iran possesses more than 500 Shahab ballistic missiles. Iran's Defense Minister has also publicly mentioned a "Shahab-5." Such statements strongly suggest that Tehran intends to develop a longer-range ballistic missile capability.¹²

Opposing US Land Attack

Iran's naval strategists believe the U.S. will attempt to land ground forces to the east of Bandar Abbas. Iran will initially use ground forces to repel this attack with conventional land warfare capability, and supported by ground-launched tactical missiles. So strategic missiles tipped with chemical, biological, and possibly nuclear warheads may target Saudi Arabia and Israel.¹³

Asymmetrical Warfare

Iran has sharpened its abilities to wage a guerrilla war. Over the last year, they've developed their tactics to conduct 'asymmetrical' war, which would aim not at resisting a penetration of foreign forces, but to deliver harmful effects to invading forces. Iran has large asymmetric forces in its Revolutionary Guards Corps, including some 20,000 men in the IRGC naval branch. These irregular forces can do more than attack Gulf shipping. South Gulf states have vulnerable offshore oil and gas facilities along with highly vulnerable oil and gas loading facilities on their Gulf coasts. Also, they have become totally dependent on large-scale coastal desalination plants for water. Once again, threat to vital infrastructure and "wars of intimidation" can substitute for overt military action.

Iran can put pressure on the Southern Gulf and other states by funding, training, and arming Shiite groups in nations like Bahrain and Saudi Arabia, by disrupting the pilgrimage in Saudi Arabia, and by funding local liberation and religious groups that are not Shi'ite but are hostile to such states. These are not theoretical options. Iran has carried out all of these activities at some point since the Iranian revolution in 1979. While it has preferred improved diplomatic relations since the death of Khomeini, it can resume such actions on short notice.¹⁴

Iran remained the most active state sponsor of terrorism in 2006.¹⁵ Its Islamic Revolutionary Guard Corps and Ministry of Intelligence and Security were involved in the planning of and support for terrorist acts. It continued to exhort a variety of groups that use

terrorism to pursue their goals. Iran can wage several of forms of asymmetric warfare against the US and its allies, without ever overtly declaring war. It can support hard-line and extremist elements in Iraq, Afghanistan, Lebanon, Gaza, and the West Bank and use proxies to attack US interests without ever directly conducting acts of terrorism. Iran can also use organizations as proxies that have a civil role or organizations that cannot be identified solely as terrorist groups. These include Hezbollah, Shiite movements in Afghanistan and Iraq and the Gulf States, and Islamic charities or political causes that fund or act as covers for extremist groups. Iran can provide ambiguous sanctuaries and operating/training areas for organizations like Al Qaida or simply turn a blind eye to low-level activities that are difficult to detect or prove. Iran can also use more direct forms of terrorism, as it may well have done in supporting the attack on the U.S. Air Force barracks at Al Khobar.¹⁶

Economy

The economies of all Gulf States are largely dependent on oil export. Income from sale of oil has supported tremendous regional development. Therefore, the continuation of the flow of the oil is a vital concern. However, the Iranian regime will respond to a military attack by ceasing its oil export to disrupt the global economy-and to generate global pressure on the attacker. An estimated 13.6 million barrels of oil transit the Strait of Hormuz each day, roughly 20 percent of the world's daily oil production according to the U.S. Energy Information Administration.¹⁷ Moreover, closure of the Strait of Hormuz will have immediate economic implications for the region and could also affect other parts of Europe and Asia.

Information

The Iranian regime will probably use the region's mosques to attack the US allies in the region, especially the Gulf States. State friendly to the U.S. will be depicted as servants of non-believers. Iranian propaganda will be widely promulgated through several media:

- Arab media Al Jazeera, Hezbollah and all Shiite channels (Al-Manar).
- Iranians embassies around the world with strong ties with the Islamic community.
- Iran's friends Syria, Venezuela, Cuba, and others.
- Shiite Muslim clerics in the region and around the world.

Threat Facing the Gulf Cooperation Council

An attack on Iran will pose serious implications for the Gulf States. The GCC will have to address Iran response to the attack, the economic issues arising from the attack, and environmental problems caused by the attack. Although the attack may target only Iran, its

reverberations will be felt throughout the region. After all, U.S. operations in Vietnam had profound effects on Laos and especially Cambodia.

External Security Threat

Iran will retaliate by attacking all the U.S. allies in the region, especially the Gulf states. However, the main targets will be the airbases and seaports and most of the high-value targets regarded as important to the U.S.

A likely scenario includes an immediate Iranian missile counterattack on U.S. bases in the Gulf, followed by a very serious effort to destabilize the entire region by immediate Iranian retaliatory missile attacks and countermeasures on other US allied Gulf States. Iran could launch dozens of ballistic missiles targeting of U.S. interests in the region over a long period, depending on the size of the Iranian arsenal, the desired severity of the counterattack, and the ability of U.S. forces to find and destroy Iran's missile launchers.¹⁸

Alii-Ashgar Kazemi, a retired Iranian admiral who teaches political science at Tehran University, recently said, "Iranians are preparing for guerilla war at sea...In an enclosed, narrow and rather shallow region such as the Persian Gulf, this tactic can be very decisive against large units and can deny the enemy from effective deployment, sea lines of communication and power projection."¹⁹ As Riad Khawaji warned in the May 8, 2006 Defense News ("Iran Plans for Attrition War in the Gulf"), "Iran could sortie nearly 400 small, high-speed craft armed with rocket launchers, torpedoes and mines."²⁰

Internal Security Threat

The states of the Gulf Cooperation Council (GCC), Saudi Arabia, Kuwait, Qatar, the United Arab Emirates (UAE), Bahrain, and Oman now operate in a new strategic environment. The US-led intervention in Iraq has unleashed unpredictable and potentially dangerous forces in the region. For GCC governments, particularly in the northern Gulf, the elimination of Iraq as a military threat in the foreseeable future is an indisputably favorable development. But the hazards of a large-scale armored incursion from the north have been replaced by fears of assertive and possibly rebellious Shiite populations, particularly in Saudi Arabia and Bahrain (less so in UAE, Qatar, and Oman), which could be emboldened by the resurgence of Shiite power in Iraq. Concerns about Shiite uprisings inspired by events outside the borders of the GCC countries have not been as grave since the Iranian revolution of 1979, which was accompanied by clerical calls for the overthrow of monarchies on the Arab side of the Gulf.²¹

The Shiite Minority in the Gulf States

As one of the influential Muslim religious group in the region, the Shiite can cause problems in many GCC countries especially if they are to conduct atrocities. It is a well-known fact in the region that is that most Shiites are secretly loyalty to Iran. Egyptian President Hosni Mubarak sounded the alarm last April: "Shiites are mostly always loyal to Iran and not to countries where they live."²² On 20 November 2006, the Kuwaiti daily Al-Rai reported: "An extremist Iranian group is threatening to carry out suicide operations in the Gulf countries that are allies of the U.S. in the event that the U.S. uses its own bases in these countries to attack Iran."²³ The paper then quoted the commander of the Kataeb Al-Istishhadiyeen (Martyrdom Brigades) organization, Firooz Rajai; "If the [U.S.] bases in the [Gulf] countries are used by the American forces as a point of departure for an attack on Iran, these countries should not expect to enjoy security while we have none. If some of the [Arab Gulf] countries provide America with bases or camps for them to use for conducting an attack against Iran, is it logical for them to expect security?"²⁴

The percentage of Shiite in the Gulf States varies as shown in the table below:

Country Name	Total Population	Percentage of Muslims	Number of Muslims	Percentage of Shia to Muslims	Number of Shia
Bahrain	590,042	100	590,042	65	383,527
Iran	66,094,264	99	65,433,321	70	45,803,324
Kuwait	1,950,047	89	1,735,542	30	520,662
Oman	2,186,548	100	382,000	2	7,640
Qatar	547,761	100	547,761	15	82,164
Saudi Arabia	19,409,058	100	19,409,058	5	970,452
United Arab Emirates	3,057,337	96	2,935,044	15	440,256

Table 1.

Expatriates in the Gulf States Who Are Loyal to Iran.

The foreign labor force in the Gulf States is large--estimated at 58 percent of the working population. Most foreign workers are Indians and Pakistanis and Arab expatriates, who belong to different religions. Most of the expatriates in these countries are from the Islamic world; some of them probably support the Iranians in various ways because of the Iranian propaganda that

depicts Americans as the crusaders. The number of expatriates who sees the US presence as an invasion of the Muslim land and would support the Iranians in the event of a US attack is large enough that it merits the attention of the Gulf States. Similarly, if Iran succeeds in hitting Israel with long-range missiles, these expatriates will show tremendous support to Iran in solidarity with the Shiite minority in the Gulf region. Muslims everywhere tend to unite behind any Arab leader with the will and means to threaten Israel. Indeed, a single successful Iranian missile launch on Israel would galvanize the Islamic world, much like a home-team goal in a World Cup soccer match!

The Terrorism (Al- Qaeda)

Consider al Qaeda's success in Iraq, Saddam Hussein wanted no part of al Qaeda. But following the U.S.-led invasion of Iraq, al Qaeda has conducted terrorist attacks to destabilize the country. It is highly likely that those are "sleeper" cells in the region ready to be activated when the first shots is fired in an attack on Iran. However, they will hit soft targets to take advantage of the chaos caused by the Iranian missiles that will probably be used in the first stages of the retaliation. Moreover, oil infrastructure and pipelines could be sabotaged, along with other strategic installations. Water desalination plants, oil refineries, government infrastructure, and the security forces will be targeted by their terrorist attacks. In other words, Iran will provide a new venue for Al-Qaeda supporters, who will find an attack on Iran a great opportunity to fight against the GCC countries supporting U.S.

Economic Threat

The six members of the Gulf Cooperation Council (GCC), blessed with more than 39 percent of the world's known global oil reserves, are poised for economic expansion. However, the GCC states face internal and external threats, starting with the internal challenge posed by extremist terrorists seeking to sabotage their oil infrastructures and pipelines. Most GCC economies rely on easily targeted economic installations, notably oil-related infrastructure. They also rely on an expatriate labor force to perform key economic functions. A missile threat could severely damage the GCC economies, whether those missiles are used to destroy strategic assets or simply to sow terror among the civilian population and cause expatriate workers to leave. Combined with concerns about weapons of mass destruction, the effect could be devastating. Furthermore, Iranian leaders threaten from time to time to sink a very large commercial super-tanker in the narrows of the Strait of Hormuz, thereby choking off 40% of all global oil flows. The Strait has two one-mile wide channels for marine traffic, separated by a

two-mile wide buffer zone. It is the only sea passage to the open ocean for much OPEC oil. It is principal export route for the GCC countries.

Environmental Threat

Bushehr

The nuclear facility at Bushehr is being built under an agreement between the Russian and Iranian governments for \$800 million. Although originally intended to be the location of a German-built reactor in the 1970s, the new reactor will be built according to Russian designs, though the original reactor building's exterior appearance will remain essentially the same. There are two calm reactors at Bushehr: One is in an advanced stage of completion, while the other has not been worked on for some time and is not currently scheduled to be completed.

According to Paul Leventhal of the Nuclear Control Institute, if Iran were to withdraw from the Nonproliferation Treaty and renounce its agreement with Russia, the Bushehr reactor could produce a quarter ton of plutonium per year, which Leventhal says is enough for at least 30 atomic bombs. Normally for electrical power production the uranium fuel remains in the reactor for three to four years, which produces plutonium of 60 percent or less Pu-239; 25 percent or more Pu-240; 10 percent or more Pu-241; and a few percent Pu-242. The Pu-240 has a high spontaneous rate of fission, and the amount of Pu-240 in weapons-grade plutonium generally does not exceed six percent, with the remaining 93 percent Pu-239. Higher concentrations of Pu-240 can result in pre-detonation of the weapon, significantly reducing yield and reliability. For the production of weapons-grade plutonium with lower Pu-240 concentrations, the fuel rods in a reactor have to be changed frequently, about every four months or less.²⁵

Natanz

Natanz is a previous secret nuclear facility; its existence was disclosed on 15 August 2002 by the National Council of Resistance of Iran (NCRI), an Iranian opposition group. Satellite imagery made available in December 2002 indicated that Natanz may be used as a gas centrifuge facility for uranium enrichment. Iran subsequently invited IAEA inspectors to visit the facility under construction at Natanz in early 2003. During a February 2003 visit, Iran advised IAEA chief Mohamed El-Baradei of the near-completion of a uranium pilot fuel enrichment plant (PFEP) and continuing construction of a large fuel enrichment plant (FEP). Upon completion, the pilot plant will house approximately 1,000 P-1 gas centrifuges. During the 2003 visit, the IAEA inspectors identified, fully operational new centrifuges in the nuclear complex. The IAEA then reported the possible presence of HEU at the PFEP facility later that year, apparently

contradicting Iran's claim that it had not carried out enrichment procedures. Iran has suggested that the HEU particles that were found must have been carried in on imported centrifuge equipment. The FEP complex is very large, partially underground-leading some to question its purported peaceful character. From a nonproliferation standpoint, in the absence of IAEA intrusive verifications and inspections, the facilities at Natanz can become a major concern. When completed, it is estimated that Natanz will be capable of producing weapons-grade uranium sufficient for several weapons per year, employing more than 50,000 centrifuges. Uranium extracted from mines in Yazd Province will allow Iran to be self-sufficient in its quest to produce the fuel needed to run its nuclear power stations, obviating the current need for regulated Russian nuclear fuel.²⁶

Arak

Arak is the site of two planned heavy water facilities. The first is a heavy water production facility, the existence of which was disclosed by an Iranian opposition group in August 2002. When IAEA inspectors visited the site in February 2003, Iran claimed that it planned to produce heavy water for export to other countries. Three months later, Iran clarified that it intends to use the heavy water to moderate a prospective heavy water research reactor in Arak. The second facility is a 40 MW heavy-water reactor, which Iran began building in 2004. This plant may present a serious nonproliferation challenge when completed. The Arak heavy-water reactor will use uranium dioxide and enable Iran to produce plutonium suitable for nuclear weapons assembly. Some estimate that this plant will be able to produce eight to ten kilograms of weapons-grade plutonium every year, a sufficient amount to build one to two nuclear weapons annually. The Iranians claim the plant is for peaceful purposes, intended for medical research and development.²⁷

Water desalination in the Gulf States has provided a flexible means of alleviating water-supply shortages over the past two decades. In addition, desalination provides water of excellent quality, which in turn contributes to the well-being of society by improving sanitation and health a better quality of life. At the present time, two-thirds of the world's total desalination capacity is installed in the Arab countries, mainly in the Arabian Peninsula, as shown in Table 3. Of the global 18.8 mcm per day of desalination capacity, the countries of the Arabian Gulf account for over one-half of the production (53 per cent). Saudi Arabia alone accounts for one-quarter of world capacity in desalination. Three Arab countries- Saudi Arabia, Kuwait and the United Arab Emirates-rate first, third, and fourth, respectively, in desalination capacity. The current annual desalination capacity of the seven countries of the Peninsula has reached 2.02

bcm, compared with a worldwide capacity of 5.68 bcm (Wagnick 1992; Bushnak 1995). These capacities include all desalination plants, even numerous units in the private sector used for industrial or other purposes. Saudi Arabia, Kuwait, and the United Arab Emirates, in particular, rely on large-scale plants capable of producing up to 500 mcm per year

Desalination Schemes in Each Country of the Arabian Peninsula

1990					2000			
Country	Installed desalination capacity (mcm)	Desalination production (mcm)	Domestic/ industrial demand (mcm)	Desalination/ demand ratio (%)	Planned desalination capacity (mcm)	Total desalination capacity (mcm)	Domestic/ industrial demand (mcm)	Desalination/ demand ratio (%)
Bahrain	75	56	103	54	66	141	155	91
Kuwait	318	240	303	79	110	428	530	81
Oman	55	32	86	37	13	68	147	46
Qatar	112	83	85	98	104	216	140	>100
Saudi Arabia	950	795	1,700	47	339	1,289	2,900	44
United Arab Emirates	502	342	540	63	270	772	832	93
Yemen	10	9	216	4	0	10	360	3
Total	2,027	1,557	3,033	-	902	2,924	5,029	-

Table 2.²⁸

The main environmental threat to the region will be the nuclear facility at Bushehr, located on the Arabian Gulf coast. However, this reactor highly vulnerable to the American attacks. If the U.S. attack the Busheir facility, all of the desalination capacity installed on the coast of the Arabian Gulf will be vulnerable to a possible pollution resulting from the attacks

Of course, the most horrific impact of a US assault on Iran would be the catastrophic number of potential casualties. The Oxford Research Group predicted that up to 10,000 people would die if the US bombed Iran's nuclear sites. Further, an attack on the Bushehr nuclear reactor could send a radioactive cloud over the Gulf. If the US uses nuclear weapons, such as earth-penetrating "bunker buster" bombs, radioactive fallout would become even more disastrous.²⁹

UAE Foreign Minister Abdullah Al-Nuaimi demanded environmental “guarantees and protection” from construction of an Iranian nuclear plant on the Gulf coast. “We are in a region very close to the (Iranian) nuclear reactor in Bushehr. We have no guarantees or protection against any leakage (from the reactor) which is on the Gulf coast,”³⁰ He did not even consider the environmental impact of an overt attack on the facility.

Conclusion

Iran’s apparently uncontrollable hegemonic ambition in the Middle East is presenting enormous challenges not only to the U.S. but to the GCC as well. Suppressing it by military actions is highly problematic and potentially catastrophic. With its arsenal of ballistic missiles, Iran can terrorize its neighbors with a retaliatory response when attacked. There are several ways Iran can affect its neighboring gulf states in retaliation after an attack. There are different cards that the Iranian leaders can play; but they will surely use of their military capability as a first option. They will use ballistic missile to strike the Gulf States immediately after the first wave of American attacks. All U.S. bases in the Gulf region will be targeted. An attack on Iran could also threaten the economy and security of the entire region, since it will close the Strait of Hormuz. This will harm the Gulf States economy and badly affect foreign investments. This will further destabilize of the region. It will affect Europe and the world which is largely dependant on oil from the region. Moreover, a Shiite and Al-Qaeda alliance would transpire to wage terror. The Iranian government would instigate and foment violence and instability. In short, a U.S. military attack on Iran could indeed destroy the region.

Endnotes

¹ Calculating the Risk of War in Iran. by F. William Engdahl

² By Ayelet Savyon . memri.org

³ IRNA - Islamic Republic News Agency, Hamedan, June 22, IRNA

⁴ Yahoo news

⁵ Yahoo news

⁶ http://www.janes.com/security/international_security/news/jid/jid051027_1_n.shtml

⁷ Cordesman: Iranian Security Threats 28-10-2003 Page 7

⁸ <http://www.converger.com/eiacab/choke.htm>. United States Energy Information Administration

⁹ <http://www.newsmax.com/archives/articles/2006/2/28/181730.shtml?s=lh>. Iran readies plan to close strait of hormuz Kenneth R. Timmerman, NewsMax.com Wednesday, March 1, 2006

¹⁰ <http://www.newsmax.com/archives/articles/2006/2/28/181730.shtml?s=lh>

¹¹ <http://www.wisconsinproject.org/countries/iran/missile2004.htm>

¹² <http://www.iranwatch.org/wmd/wmd-iranmissileessay.htm>

¹³ <http://www.newsmax.com/archives/articles/2006/2/28/181730.shtml?s=lh>

¹⁴ <http://www.senate.gov/~foreign/testimony/2003/CordesmanTestimony031028.pdf>

¹⁵ <http://www.state.gov/s/ct/rls/crt/2005/64337.htm>. Country Reports on Terrorism Released by the Office of the Coordinator for Counterterrorism April 28, 2006. Chapter 6 -- State Sponsors of Terror Overview

¹⁶ <http://www.senate.gov/~foreign/testimony/2003/CordesmanTestimony031028.pdf>

¹⁷ <http://memri.org/bin/articles.cgi?Page=archives&Area=ia&ID=IA29206>. If Attacked— Iran's Options Reassessed. By Dr. Nimrod Raphaeli

¹⁸ CNS Research Story A Preemptive Attack on Iran's Nuclear Facilities: Possible Consequences. By Sam my Salama and Karen Ruster

¹⁹ <http://www.defensenews.com/story.php?F=1749274&C=navwar>. Iran Plans for Attrition War in Gulf Exercise Featured Small Boats, Hit-and-Run Attacks By RIAD KAHWAJI, TEHRAN

²⁰ <http://www.washingtoninstitute.org/templateC07.php?CID=297>

²¹ Gulf security in the twenty-first century. Edited by David E. long and Christian Koch. The Emirates Center for strategic Studies and Research. p 125

²² <http://www.abc.net.au/news/newsitems/200604/s1611881.htm>. April 9, 2006

²³ <http://memri.org/bin/articles.cgi?Page=countries&Area=iran&ID=SP137806>. Iranian suicide bomber organization threatens suicide operations against U.S. targets in gulf

²⁴ <http://memri.org/bin/articles.cgi?Page=countries&Area=iran&ID=SP137806>

²⁵ Global security.org

²⁶ Global security.org

²⁷ Global security.org

²⁸ <http://www.unu.edu/unupress/unubooks/uu02fe06.htm>. the future of freshwater resources in the Arabian Peninsula

²⁹ SPECTREZINE. by Heather Wokusch

³⁰ By Steve Schippert.threatswatch.

